



First urban stormwater harvesting system for cooling tower water

First automated flood mitigation system

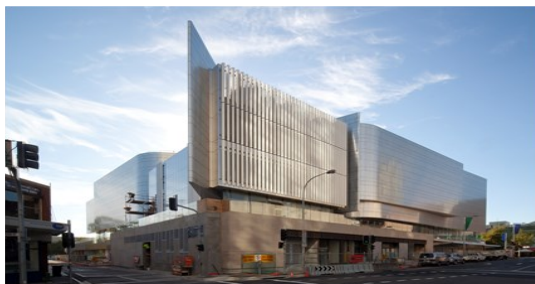
Water produced at 16% reduced kWh/kL when compared with Sydney Water

Flood Mitigation & CBD Stormwater Recycling Scheme

BACKGROUND

Willoughby City Council in Chatswood NSW developed and renamed the Civic building as The Concourse. SSI was the consultant engaged by Council to incorporate a flood mitigation scheme and a stormwater harvesting and reuse scheme, intended to produce non-potable water quality for use within the development. The water harvested is used for supplying irrigation (subsurface), toilet flushing and cooling tower water for The Concourse and exported for cooling tower water supply for external users.

The project was developed on a 12,500sqm site in the centre of the Chatswood CBD, in accordance with the Master Plan adopted by Council in 2004. The development included an Integrated Water Management System, comprising flood mitigation and water reuse, with a 5,000 kL stormwater tank. Approximately 18-20 ha of urban catchment and 1 ha of site provides source water for the scheme. The stored stormwater is treated and used to supply a total of 250 to 350 kL/day for non-potable uses.



SSI'S ROLE

SSI conducted the following works:

- Initial feasibility investigation for the scheme;
- HACCP risk assessment on the scheme to provide minimum design requirements for compliance with the NSW IPART legislation;
- Gained approval for the scheme from NSW Health through the IPART process;
- Conducted 6 months of stormwater and base flow investigations including stormwater quality and quantity analysis for the catchment;
- Prepared Expression of Interest (EOI) documentation and assisted Council and the Project Managers (Savills Project Management) with the EOI process and assessment;
- Detailed design of the flood mitigation and stormwater recycling plant;
- Facilitated the detailed design risk assessment (HAZOP) on the plant's design;
- Prepared technical specifications and tender documentation;
- Managed and assisted with the tender process from a technical point of view;
- Conducted tender negotiations;
- Construction managed the plant installation;
- Prepared the plant commissioning plan and managed plant commissioning; and
- Reviewed Plant Operation and Maintenance Manuals and Standard Operating Procedures.

SSI SERVICES PROVIDED

Asset & Maintenance Management

Design Construction Management & Commissioning

Efficiency Audits & Cleaner Production

Environmental Compliance & Licensing

Master Planning

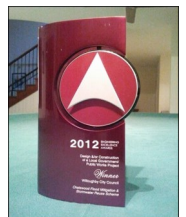
Plant Assessment & Optimisation

Sustainable Resource Management

Risk Assessments (HACCP & HAZOP)

ENVIRONMENTAL STEWARDSHIP

The Chatswood integrated flood mitigation and stormwater reuse scheme was granted the Environmental Excellence Award in 2012.



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